BRUHAT BENGALURU MAHANAGARA PALIKE
Office of the Executive Engineer, Storm Water Drain Division, Dasarahalli.

Name of Work :- Construction of RCC culvert & U Shape drain for secondary SWD between Settyhalli & Chikkasandra village in Settyhalli Ward No.12

1/8

Estd. Cost Rs. 100.00 Lakhs

Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
1	**Dismantling of existing structures like culverts, bridges, retaining walls and other structure** comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications, iii) Dismantling Stone Masonry. A. Rubble Stone masonry in lime mortar. MORTH Specification No. 202 KSRRB M200- 15.2. -do- B. **Rubble stone masonry** in cement mortar.								
	(PWD SR 2015-16 Pg 137 Item No 18.27)								
	Culverts Head Walls	Cum	2	4.00	(0.45+0.75)/2	1.50	7.20		
						Total	7.20	250.56	1805.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 232.00							
	AW 8 %	Rs. 18.56							
	Total	**Rs. 250.56**							
2	KSRRB M200-21.2 Dismantling of Existing Structures like Culverts,Bridges,Relaining Walls and other structures comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding where ever necessary,sorting the dismantled material,disposal of unserviceable material and stacking the seviceable material with all lifts complete as per specifications. Removal of all types of hume pipes and stacking including earthwork and dismantling of masonry works-B. Above 600 mm to 900 mm Dia								
	(PWD SR 2015-16 Pg 137 item no 18.42								
	Pipe	Cum	1	7.50			7.50		
						Total	7.50	231.12	1734.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 214.00							
	AW 8 %	Rs. 17.12							
	Total	**Rs. 231.12**							
	Excavation of removal of silt mixed with sand, human excreta, garbage in slussy condition from Storm water drain in Bangalore City including disposing off the same as directed including cost of machinery labour, fuel etc., complete with all lead and lifts (By Mechanical Means) (RA as per MI SR 2014-15)								
	For Removal of Silt in drain	Cum	1	480.00	2.50	0.60	720.00	336.39	242201.00
	(Data Rate enclosed) Rs	**336.39**							
2	**Diversion of water course by providing coffer dams or bunds or islands** as may be necessary for piers and abutments foundations, bailing out or pumping water during excavation and until completion etc... complete beyond 1.50m depth upto & including 3m depth.								
	(PWD SR 15-16 Pg 257 item no 37.41.2)								

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
	Culverts	Cum	1	7.50	(0.90+0.5)/2	0.60	3.15		
	U-Drain	Cum	1	201.00	(0.90+0.5)/2	0.60	84.42		
					Total		87.57	346.68	30359.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 321.00							
	AW 8 %	Rs. 25.68							
	Total	**Rs. 346.68**							
4	**Excavation in marshy soil** upto 3m depth for foundation of structures as per drawing and technical specifications, removing the excavated stuf to a lead of 15m, including dewatering, shoring, refilling trenches in 250mm layers, wherever necessary watering and ramming, including cost of all materials, labour complete as per specifications. V. **Marshy Soil - B Mechanical means**								
	(PWD SR 15-16 Pg 210& Item no 27.13)								
	Culverts	Cum	1	8.1	4.2	2.6	88.45		
	U-Drain	Cum	1	201.00	4.10	2.25	1854.23		
							1942.68		
	Deduct 40 % for Existing Drain section						-777.07		
					Net		1165.61		
	Considering 30% qty in Marshy soil						349.68		
					Total		349.68	113.40	39654.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 105.00							
	AW 8 %	Rs. 8.40							
	Total	**Rs. 113.40**							
5	KSRRB M2100-2.1 Earth work in **excavation for foundation** of structures such as culverts, bridges etc., as per drawing and technical specifications,including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material complete as per specifications **in Ordinary soil - B. Machanical Means** (i) Depth upto 3m MORTH Specification No. 304								
	(PWD SR 15-16 Pg 209& Item no 27.4)								
	Recharge pit		20.1	1.05	1.05	0.6	13.30		
	Considering 70% qty in AKS						815.93		
					Total		829.23	51.84	42988.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 48.00							
	AW 8 %	Rs. 3.84							
	Total	**Rs. 51.84**							

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
6	Providing and **filling in foundation with Granite/trap broken metal** 100mm and down size, with approved sand including hand packing, ramming,watering, including cost of all materials and labour with all lead and lift.complete as per specifications								
	(PWD SR 15-16 Pg 6 & Item no 2.15)								
	Culverts	Cum	1	8.10	4.20	0.30	**10.21**		
	U-Drain	Cum	1	201.00	4.10	0.30	**247.23**		
	Recharge pit (Below Sand & Boulder Fill)	Cum	20	1.05	1.05	0.60	**13.30**		
	Recharge pit (Above Sand & Boulder Fill)	Cum	20	0.75	0.75	0.45	**5.09**		
	Deduct available qty @ 60% of item No.1					**Total**	-4.32		
					Total		**271.51**	**2133.78**	**579343.00**
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs.	2013.00						
	AW 6 %	Rs.	120.78						
	Total	**Rs.**	**2133.78**						
7	KSRB 2.8 : Providing and **Filling in foundation with granite I trap broken metal 100mm** (available boulders obtained from dismantaling of masonary including charges for breaking into pieces) and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with all lead and lift. complete as per specifications.specification. No. KBS								
	(PWD SR 15-16 Pg 6 & Item no 2.15)								
	Qty @ 60% of item No.1	Cum					**4.32**		
						Total	**4.32**	**1418.28**	**6127.00**
	Rate Analysis	**Rs./Cum**							
	Basic Rate	Rs.	2013.00						
	Deduct for 100 mm and down size stone agreegates for available stone at site after dismantling of SSM (PWD - SR, 2015-16 : Page No.I,Sl no.28,Code no 0175)		-675.00						
			1338.00						
	Add 6% AW	Rs.	80.28						
	Total	**Rs.**	**1418.28**						
5	KSRRB M2100-10 - **Plain Cement Concrete M10** with OPC cement @ 220 kgs, with crushed 40mm and down size graded metal coarse aggregates @0.84 Cum and fine aggregates @ 0.56Cum, in foundation mechanically mixed placed in foundation and compacted by vibration including curing for 14 days complete as per specifications MORTH Specification No.2100								
	(PWD SR 15-16 Pg 211 & Item no 27.18)								

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
	Culverts	Cum	1	8.10	4.20	0.15	5.10		
	U-Drain	Cum	1	201.00	4.10	0.15	123.62		
	Dedn for Recarge pits		-20	0.75	0.75	0.15	-1.70		
					Total		127.02	5805.00	737352.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs.	5375.00						
	AW 8 %	Rs.	430.00						
	Total	**Rs.**	**5805.00**						
6	KSRRB M 2100-17.2 : **Plain/reinforcement Cement Concrete design mix M25** with OPC cement @340 kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.70Cum and fine aggregates @0.47Cum with superplastisiser @ 3lts confirming to IS9103-1999 Reaffirmed-2008, **open foundation** complete as per Drawing and Technical Specification with Batching plant, transit mixer and concrete pump. MORTH Specification No. 1500, 1700 & 2100.								
	(PW,P& IWTD, SR 15-16, P-212, I.No-27.31)								
	U-Drain	Cum	1	201.00	3.80	0.3	229.14		
	Dedn for Recarge pits		-20	0.75	0.75	0.30	-3.39		
					Total		225.75	6237.00	1408003.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs.	5775.00						
	AW 8 %	Rs.	462.00						
	Total	**Rs.**	**6237.00**						
7	KSRRB M 2200-5.12 : **Design mix M25 sub structure** with OPC cement @340kgs, with 20mm and down size graded granite metal coarse aggregates @0.7Cum and fine aggregates @0.47Cum with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 upto 5 mtrs. Upto 5 Mtrs height.								
	(PW,P& IWTD, SR 15-16, P-216, I.No-28.7.12)								
	U-Drain	Cum	2	201	(0.25+0.35)/2	1.8	217.08		
	Hauches	Cum	2	201	0.045		18.09		0.045
		Cum			Total		235.17	7002.72	1646830.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs.	6484.00						
	AW 8 %	Rs.	518.72						
	Total	**Rs.**	**7002.72**						
8	KSRRB M 2100-17.2 : **Plain/reinforcement Cement Concrete design mix M35** with OPC cement @390 kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.68Cum and fine aggregates @0.45Cum with superplastisiser @ 3lts confirming to IS9103-1999 Reaffirmed-2008, **open foundation** complete as per Drawing and Technical Specification with BAtching plant, transit mixer and concrete pump. MORTH Specification No. 1500, 1700 & 2100.								
	(PW,P& IWTD, SR 15-16, P-212, I.No-27.31)								

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
	Culvert Raft	Cum	1	7.50	3.80	0.35	9.98	6599.88	65867.00
	Rate Analysis	**Rs./Cum**							
	Basic Rate	Rs. 6111.00							
	AW 8 %	Rs. 488.88							
	Total	**Rs. 6599.88**							
9	KSRRB M 2200-5.12 : **Design mix M35 sub structure** with OPC cement @390kgs, with 20mm and down size graded granite metal coarse aggregates @0.68Cum and fine aggregates @0.45Cum with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 upto 5 mtrs. Upto 5 Mtrs height.								
	(PW,P& IWTD, SR 15-16, P-216, I.No-28.7.12)								
	Culvert Wall	Cum	2	7.50	0.35	1.80	9.45		
	Culvert Haunches	Cum	4	7.50	0.045		1.35		
		Cum			**Total**		10.80	7429.32	80237.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 6879.00							
	AW 8 %	Rs. 550.32							
	Total	**Rs. 7429.32**							
10	**KSRRB M2300-8.1. Furnishing and Placing Reinforced/ Prestressed cement concrete in super-structure** as per drawing and Technical Specification complete as per specifications. D. RCC / PSC with OPC cement design mix **M35** @ 390kgs, with 20mm and down size graded granite metal coarse aggregates @0.68cum and fine aggregates @ 0.45cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, Case - II : Using Batching Plant, Transit Mixer & Concrete Pump MORTH Specification No. 1500,1600 & 1700. Height upto 5 m								
	(PW,P& IWTD, SR 15-16, P-226, I.No-29.16.1								
	Top slab	Cum	1	7.50	3.20	0.35	8.40		
	Parapet Wall	Cum	2	3.20	0.30	0.90	1.73		
					Total		10.13	7522.20	76200.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 6965.00							
	AW 8 %	Rs. 557.20							
	Total	**Rs. 7522.20**							
14	Supplying,fitting and placing **TMT bar reinforcement in sub-structure** complete as per drawing and technical specifications complete as per specifications. TMT Bars Fe 500								
	(PW,P& IWTD, SR 15-16, P-218, I.No-28.82)								
	Concrete Qty Drain					460.92			
	Considering 90 Kg/ Cum for Drain						41.48		
	Concrete Qty Culvert					20.78			
	Considering 110 Kg/ Cum for Culvert						2.29		
		MT			**Total**		43.77	53549.64	2343793.00
	Rate Analysis	**Rs./ MT**							
	Basic Rate	Rs. 49583.00							
	AW 8 %	Rs. 3966.64							
	Total	**Rs. 53549.64**							

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
15	Supplying,fitting and placing **TMT bar reinforcement in super-structure** complete as per drawing and technical specifications complete as per specifications. TMT Bars Fe 500								
	(PW,P& IWTD, SR 15-16, P-231, I.No-29.29)								
	Concrete Qty Culvert								
	Considering 110 Kg/ Cum for Culvert						10.13		
		MT					1.11		
	Rate Analysis **Rs./ MT**				**Total**		**1.11**	**54425.52**	**60647.00**
	Basic Rate Rs. 50394.00								
	AW 8 % Rs. 4031.52								
	Total Rs. 54425.52								
16	PVC pipes 2.50kg/sqm 110mm outerdia								
	PWD SR-15-16, Pg XX & Sl no 586								
	Weep Holes @ 2 M c/c	Rmt	4	105.00	0.30		**126.00**	**177.00**	**22302.00**
	Rate Analysis **Rs./ Rmt**								
	Basic Rate Rs. 177.00								
	AW 8 % Rs. --								
	Total Rs. 177.00								
17	KSRRB M2200.9. Providing and laying of **Filter media with granular** materials/stone crushed aggregates satisfying the requirements laid down in clause 2500.4.2.2 of MORTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification complete as per specifications with all lead and lifts, etc., after breaking of clods complete as per specifications and as per direction of Engineer in-charge.page no 229/28.13								
	(PW,P& IWTD, SR 15-16, P-218, I.No-28.13)								
	Culvert	Cum	2	7.50	0.30	1.80	**8.10**		
	U-Drain	Cum	2	201.00	0.30	1.50	**180.90**		
	Rate Analysis **Rs./ Cum**				**Total**		**189.00**	**1297.08**	**245149.00**
	Basic Rate Rs. 1201.00								
	AW 8 % Rs. 96.08								
	Total Rs. 1297.08								
18	**Filling available excavated earth** (excluding rock) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications,.								
	(PW,P& IWTD, SR 15-16, P-6, I.No-2.10)								
	Culvert	Cum	2	7.50	0.30	1.80	**8.10**		
	U-Drain	Cum	2	201.00	0.30	1.50	**180.90**		
	Rate Analysis **Rs./ Cum**				**Total**		**189.00**	**127.20**	**24041.00**
	Basic Rate Rs. 120.00								
	AW 6 % Rs. 7.20								
	Total Rs. 127.20								

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
19	KSRRB M100-1 Collecting, Conveying and disposal of surplus/excavated earth including Stone Boulder / Stone aggregates /Sand/ Kanker / Moorum **to designated dumping site** (10.0 kms) as directed by the engineer-in-charge . (PW,P& IWTD, SR 15-16, P-133, I.No-17.1								
	Qty as in (item No.1+4+5-7-18)=	Cum					1370.79	103.85	142361.00
	Rate Analysis		**Rs./ Cum**						
	Basic Rate	Rs.	68.00						
	Haulage for earth for 15 kms (1.28*2.2*10)	Rs.	28.16						
	AW 8 %	Sub	96.16						
	Total	Rs.	7.69						
		Rs.	**103.85**						
20	KSRB 4-1.5 : Providing and laying in position plain **Cement concrete of mix M20** with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.43cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications.Specification No. KBS 4.1,4.2 (PWD SR 15-16 Pg 12 item no 4.5)								
	Fencing footing @3 m Interval	Cum	134	0.45	0.45	0.60	16.28	5991.84	97548.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 5548.00							
	AW 8 %	Rs. 443.84							
	Total	**Rs. 5991.84**							
21	Supplying and fixing MS. Rectangular poles made out of 2 equal angles of 65x65x6m m welded together and fixed in CC (1 :2:4) WITH 2 NOS 16mm dia M.S. hold fast rods each of length 25 crns. Including cost of all materials cutting, bending scaffolding wherever necessary, nicely finishing the welded joints with all lead and lift and as per the directions of the Engineer-in-charge of the work and including providing 2 coats of approved quality paint over one coat of shop painting. (excluding cost of earth work and (PWD SR 15-16 Pg 255 item no 37.2)								
	At 3m interval	Rmt	134			3.00	402.00	991.44	398559.00
	Rate Analysis	**Rs./ Rmt**							
	Basic Rate	Rs. 918.00							
	AW 8 %	Rs. 73.44							
	Total	**Rs. 991.44**							
22	Providing and fixing **MS block pipe of 38mm dia** of heavy guage of 14 including removing the bends, cutting the pipes and fixing pipe in between the two vertical poles (M.S rectangular poles) and spot welding the chain link with M.S block pipe including cost of all materials wastage in cutting and scaffolding wherever necessary with all lead and lift as directed by the engineer in charge of work etc, complete including two coats of approved quality paint over one coat of shop paint (PWD SR 15-16 Pg 255 item no 37.4)								
		Rmt	5x2	201.00			2010.00	338.04	679461.00

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
	Rate Analysis	**Rs./ Rmt**							
	Basic Rate	Rs. 313.00							
	AW 8 %	Rs. 25.04							
	Total	**Rs. 338.04**							
23	Providing **chain link fencing** 50 mm size of 8 gauge properly stretched between rectangular poles and fixed with suitable bolts & nuts, the free ends shall be welded to the pole and block pipe at top and bottom as required including cost of all materials, labour, lead and lifts and as per the directions of Engineer-in-charge of work including two coats of approved quality paint over one coat of shop paint.								
	(PW,P& IWTD,SR 15-16, P-255, I.No-37.3)								
		Sqm	2	201.00		2.50	1005.00	697.68	701169.00
	Rate Analysis	**Rs./ Sqm**							
	Basic Rate	Rs. 646.00							
	AW 8 %	Rs. 51.68							
	Total	**Rs. 697.68**							
24	Providing and **fixing 50mm diameter and 750mm long perforated GI pressure relief pipe** with one end closed by perforated GL plate and other end provided with alluminium lid hinged to pipe including cost of all materials,labour, drilling 8mm dia holes etc., complete with **all leads and lifts.**								
	(WRD SR 14-15, P-60, WRD: 3.41)								
		Nos	20.1				20.10	407.00	8181.00
	Rate Analysis	**Rs./ Sqm**							
	Basic Rate	Rs. 407.00							
	Total	**Rs. 407.00**							
24	WRD: Providing and fixing 20mm thick 150mm depth tarfelt expasion joint filler board for cement concrete lining of canal including cost of all materils, labour etc,. Complrtr with all leads and lifts								
	(WRD SR 14-15, P-60, WRD: 3.41)								
		Nos	13	7.40		2	192.40	123.00	23666.00
	Rate Analysis	**Rs./ Sqm**							
	Basic Rate	Rs. 123.00							
	Total	**Rs. 123.00**							
						Sub Total			9705577.05
	Add 3.00 % for preparation of DPR, PMC & Quality control							Rs.	291167.00
	Utility shifting, miselleneous, Unforeseen charges and rounding off							Rs.	3255.96
	GRAND TOTAL							Rs.	10000000.00

CERTIFICATE :

1 Certified that above mentioned work is included in the detailed project report
2 The area comes under BBMP limits.
3 The provisions made in the estimates are adequate and necessary.
4 This Estimate is prepared based on the SR of 2015-2016 of PWD circle Bengaluru and WRD SR for 2014-15 Bengaluru.

AE, SWD, BBMP,
Dasarahalli Division, Bengaluru

AEE, SWD, BBMP,
Dasarahalli Division, Bengaluru

EE, SWD, BBMP,
Dasarahalli Division, Bengaluru

Administrative sanction for Rs. 100.00 lakhs
(Rs. One Hundred lakhs only)
is accorded under head
Registered as CE No. 100/16-17 Subject to conditions contained in enclosed memo No. 100/16-17 Dt. 23/8/16.

AE/JE TA SE (S) CE (S)

Technically sanctioned for Rs. 100.00 lakhs
Rs. One hundred lakhs only
under
Registered as CE No. 102/16-17 Subject to conditions contained in enclosed memo No. 102/16-17 Dt. 23/8/16.

AE/JE TA SE (S) CE (S)

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